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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,930	05/23/2007	Patrick Morvan	PF040025	3752

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Robert D. Shedd, Patent Operations
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EXAMINER

FRY, MATTHEW A

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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12/08/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/589,930

Applicant(s)

MORVAN ET AL.

Examiner

MATTHEW FRY

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-5,8 and 9 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-5,8 and 9 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-302)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/12/11.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/12/11 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claim 1-5 and 8-9 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

3. The Foreign Reference filed 4/12/11 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because no English abstract or English translation has been provided. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing

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the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 4-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsui et al (US 2002/0060674).

6. In regards to claim 1, Tsutsui discloses and Image display device comprising:

- a valve of elements arranged in rows and columns, each of said elements comprising a liquid crystal one of whose electrodes, called the mirror electrode, is controlled by drive means so as to display video information relating to at least one image (¶ 67 and abstract),

means for coding (drain driver, figure 1; 110, figure 4), for each image, the video information intended to be displayed by each of the elements of the valve as a common value shared by a group of at least two adjacent elements of the valve and a specific value, and for transmitting them to said valve (¶74-76),

wherein said drive means consist in: for each element of the valve, a specific drive means (41,71, 44, 85; figure 4) coupled to the mirror electrode (16) of the liquid crystal of said element and intended to store the specific value associated with the

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video information to be displayed by said element and to apply it to the mirror electrode of the liquid crystal of said element, said specific drive means comprising:

- a first storage capacitor (85) for storing the specific values present on a column line of the valve and intended for said element,

- a first switch (71) for connecting the column line to a first end of said first storage capacitor, the other end being connected to a fixed potential (SC),

- a second switch (44) for connecting the first end of the first storage capacitor to the mirror electrode (16) of the liquid crystal of the element (figure 4); and

- for each group of at least two elements of the valve, a common drive means (72, 110 and 45) coupled to each element of said group and intended to store said common value associated with the video information to be displayed by said elements of the group and to apply it to the mirror electrode of the liquid crystals of the elements of said group, said common drive means comprising:

- a second storage unit (110) for storing the common value present on the column line of the valve and intended for said group,

- a third switch (72) for connecting the column line to a first end of the second storage unit, the other end being connected to a fixed potential (Vdd and Vss)

- at least two fourth switches (45a and b) for connecting the first end of the second storage capacitor to the at least two mirror electrodes (16) of the liquid crystals of the elements of the group, the specific drive means and the common drive means that are coupled to one and the same group of elements controlling the liquid crystals of the elements of the group in such a way as to alternately display the specific values and the

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common value of the video information relating to the elements of the group for an image (figure 4; ¶ 73-77). Tsutsui does not explicitly discuss the second storage unit being a capacitor. Tsutsui teaches in figures 9 and 11 the use of a capacitor and a SRAM to store video data. They are equivalents that differ only in that one stores analog data, and the other digital data. They are both well-known and common in the art, and are easily interchangeable. It would have to modify Tsutsui such that instead of storing the video data digitally, it's stored analog via a capacitor. This would provide the same predictable results. This would have the added benefit of reduced parts, and maintaining consistency with the data which is input in analog and is stored in capacitor 85 in analog. This would simplify the drain driver, and would effectively reduce cost of manufacturing.

7. In regards to claim 2, Tsutsui discloses display device according to Claim 1, wherein it is able to process video information relating to at least two colours transmitted sequentially, and in that the specific drive means and the common drive means that are coupled to one and the same group of elements control the liquid crystals of the elements of the group in' such a way as to alternately display the specific values of the video information relating to a colour and the common values of the video information relating to said colour or to another colour (¶39, 41, 69).

8. In regards to claim 4, Tsutsui discloses device according to one of Claim 1, wherein the adjacent elements of said group belong to consecutive rows and to a column of elements of the valve (figure 5).

9. In regards to claim 5, Tsutsui discloses device according to one of Claim 1 wherein the adjacent elements of said group belong to consecutive rows and to consecutive columns of elements of the valve (figure 5).

10. In regards to claim 8, Tsutsui discloses device according to Claim 1, wherein the groups of elements comprise two elements (figure 4).

11. In regards to claim 9, Tsutsui discloses device according to Claim 1 wherein the groups of elements comprise four elements (figure 5).

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsui et al (US 2002/0060674) in view of Richards et al (US 2004/0155856).

13. In regards to claim 3, Tsutsui discloses the device according to claim 2, wherein the valve reflects or allowing through a quantity of light as a function of the specific and common values (§ 67 and 73-77) that are transmitted to it by the coding means, but does not discuss explicitly the use of a color wheel or light source.

Richards teaches a method of illuminating colors in a display wherein it furthermore comprises: a light source for producing white light and illuminating said valve of elements (abstract), said and a colour wheel, interposed between said light source and said valve, comprising a colour segment for each of said at least two colours, said wheel being synchronized with the coding means so that, when specific or common values relating to a colour are applied to the mirror electrodes of the liquid crystals of the valve, the wheel segment corresponding to said colour filters the light produced by the source (figure 1; § 23-24 and 33).

Tsutsui is mostly silent as to the source of the light, and primarily discusses the modulation aspect of the display. Richards is mostly silent on the modulation aspect of a display, and primarily teaches a method of providing colored light upon which a display may modulate. Richards specifically discusses this may be used in a reflective LC display (§ 28), such as that taught by Tsutsui. As color wheels and light sources are well known and commonly used in the display art, it would have been obvious for one of ordinary skill in the art to modify Tsutsui with Richards in order to provide light for Tsutsui's display to modulate. Such a modification would have provided predictable results.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW FRY whose telephone number is (571)270-7355. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 5:00 PM, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MATTHEW A FRY/
Examiner, Art Unit 2629

/LUN-YI LAO/
Supervisory Patent Examiner, Art Unit 2629